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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,516	10/23/2003	Yoshihiro Takada	03560.003379.	6065
5514	7590	05/25/2006	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			GARCIA JR, RENE	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2853	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/690,516

Applicant(s)

TAKADA ET AL.

Examiner

Rene Garcia, Jr.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>18 November 2005</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 6, 8 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (US 5,576,746).

**Suzuki et al. disclose the following claimed limitations:**

\*regarding claims 1 and 8, recording apparatus/**ink jet printer, 105/** for recording an image by applying ink on a recording medium/**paper, 2/** (col. 6, lines 41-42) with at least one recording head/**112/**, the recording head/**112/** discharging ink by applying thermal energy (col. 5, lines 51-52), comprising: (figs. 1 & 2a)

\***timer/counter/** (col. 5, lines 45-46) for measuring a recording downtime/**stand-by/** (col. 3, lines 37-47) when an image-recording operation of the recording head/**112/** is interrupted during the recording operation and is then resumed (col. 8, lines 3-22)

\***control means/CPU, 111/** (fig. 1; col. 5, line 44) for performing a temperature control of the record head/**112/** by applying drive pulses/**drive signal, 121/** (col. 5, lines 58-59) before the resumption of the recording operation (col. 7, lines 8-14; “dry ejection” - col. 6, lines 21-27), in accordance with the length of the recording downtime measured by said timer (figs. 4 & 5; col. 7, lines 15-27; col. 8, lines 14-30),

\*wherein, with said control means/**CPU, 111/**, the number of drive pulses/**121/** to be applied to the recording head/**112/** is increased as the recording downtime/**stand-by/** becomes longer (fig. 4; col. 7, lines 15-24; col. 8, lines 23-30)

\*regarding claims 3 and 10, electrothermal conversion member/**heater, 150/** (fig. 3A & 3B; col. 6, lines 49 – 63) disposed in the recording head/**112/** is heated to the extent of not causing ink in the recording head to be discharged therefrom (col. 8, lines 33-35)

\*regarding claims 4 and 11, temperature sensor/**thermistor, 113/** (fig. 1; col. 5, lines 51-52) for detecting a temperature of the recording head/**112/**, wherein, with said control means/**CPU, 111/**, the recording head/**112/** is heated before the resumption of the recording operation up to a temperature (col. 4, lines 24-36 – “up to” does not provide having to reach exact temperature) of the recording head/**112/** detected by said temperature sensor/**113/** before the interruption of the recording operation and is further heated in accordance with the length of the mentioned recording downtime/**stand-by/** (fig. 5; col. 7, lines 15-17; col. 8, lines 23-30)

\*regarding claims 5, 12 and 13, temperature sensor/**thermistor, 113/** (fig. 3A & 3B; col. 5, lines 51-52) for detecting temperatures of the recording head/**112/** before and after the interruption of the recording operation/**stand-by/** (fig. 5; col. 8, lines 7-14), wherein, with said control means/**CPU, 111/**, the temperature control of the recording head/**112/** is performed before the resumption of the recording operation in accordance with the detected temperatures before and after the interruption of the recording operation and is further performed in

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accordance with the length of a recording downtime/**stand-by**/ detected thereafter (col. 7, lines 15-17; col. 8, lines 23-30)

\*regarding claims 6 and 14, at least one recording head/**112**/ comprises a plurality of recording heads for different recording ink colors (col. 6, lines 10-12; fig. 2B), and with said control means/**CPU, 111**/, the temperature control of each of the plurality of recording heads for the different recording ink colors is performed in accordance with the measured length of interruption of the recording operation (fig. 4; col. 7, lines 15-17; col. 8, lines 23-30; recording head/**112**/ is made up of individual ink color heads therefore operation disclosed is with regards to recording head/**112**/ as a whole which relates to the individual color heads)

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 5,576,746) in view of Numata et al. (US 6,126,266).

**Suzuki et al. disclose the claimed limitations except for the following:**

\*regarding claims 2 and 9, interruption of the recording operation during an image-recording operation is executed midway through a recording operation of a continuous image.

**Numata et al. disclose the following:**

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\* regarding claims 2 and 9, interruption of the recording operation during an image-recording operation is executed midway through a recording operation of a continuous image (col. 38, lines 28-32; replacing heads midway of recording operation is an interruption)

It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to utilize interrupting a recording operation midway replacing a recording head as taught by Numata et al. into Suzuki et al. for the purpose of temporary use of a recording head in place of an original head.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejection. Suzuki et al. (US 5,576,746) includes temperature control of recording head in accordance with the downtime/stand-by/ by applying drive pulses/drive signals/ before resumption of printing.

#### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


***Communications with the USPTO***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Rene Garcia Jr.  
16 May 2006

  
STEPHEN MEIER  
SUPERVISORY PATENT EXAMINER